

TWO-WAY RF RANGING SYSTEM AND METHOD FOR LOCAL POSITIONING

ABSTRACT OF THE DISCLOSURE

5 A positioning system includes a plurality of devices configured to exchange RF
signals with one another. A first device periodically receives a message from each other
device during time slots assigned them. The received message includes information
representing a time of arrival at the other device of a respective message transmitted by the
first device. A time of arrival of the message from each of the other devices is determined
by the first device. The first device periodically transmits messages to the other devices,
10 each transmitted message including information representing the determined time of arrival
for at least one of the other devices. A range from the first device to each of a plurality of
the other devices is determined as function of the determined time of arrival of the message
from the other device and the time of arrival information in the message from the other
device.